Support for new claims 72-73 can be found in the specification at, for example, page 5, lines 12-16 and page 6, lines 10-14. No new matter is introduced.

The allowance of claims 1-42 and 66-70 is acknowledged.

A copy of form PTO-892 listing the references newly cited in the Office action of October 4, 2002 was not received with the Office action and Applicants request that an additional copy be furnished in any subsequent Office action. Applicants thank the Examiner for his consideration.

Claims 59-63 stand rejected as allegedly anticipated by Emesh et al., U.S. Patent 5,358,889 ("Emesh"). This rejection is traversed. Claim 59 as amended recites a method of forming a passivated layer during fabrication of an electronic device. The method comprises providing a layer of ruthenium oxide, and annealing the layer in a nitrogen-supplying or nitrogen-supplying and reducing ambient so as to passivate the layer. Emesh does not teach or suggest such a method. According to Emesh, an amorphous ruthenium oxide layer is annealed in an inert or oxygen ambient at a temperature below 700 °C. Col. 4, lines 1-8. Emesh does not teach or suggest annealing in a nitrogen-supplying or nitrogen-supplying and reducing ambient. Therefore, claim 59 and dependent claims 60-63 and 72-73 are properly allowable.

Dependent claims 60-63 and 72-73 recite additional features that are neither taught nor suggested by Emesh. For example, claim 60 recites a method of forming a passivated layer during fabrication of an electronic device. The method comprises providing a layer of ruthenium oxide, and annealing the layer in a nitrogen-supplying or nitrogen-supplying and reducing ambient so as to passivate the layer. The passivated layer is then annealed in an oxidizing ambient. Emesh does not teach or suggest such a method. As noted above, Emesh teaches forming an amorphous ruthenium oxide layer, and annealing the layer an inert or oxygen ambient at a temperature below 700 °C. Emesh does not teach or suggest annealing a ruthenium oxide layer in a nitrogen-supplying or nitrogen-supplying and reducing ambient, and then annealing the layer in an oxidizing ambient. Therefore, claim 60 is properly allowable over Emesh.

Claims 61 and 62 recite annealing the ruthenium oxide layer in an ammonia ambient or a mixture comprising hydrogen and nitrogen, respectively. Emesh does not teach or suggest annealing in such ambients, and instead teaches annealing in an inert or oxygen ambient. Therefore, claims 61-62 are properly allowable over Emesh.

Claims 59-63 stand rejected as allegedly anticipated by Tsuzumitani et al., U.S. Patent 6,436,786 ("Tsuzumitani"). This rejection is traversed. Claim 59 as amended recites a method of forming a passivated layer during fabrication of an electronic device. The method comprises providing a layer of ruthenium oxide, and annealing the layer in a nitrogen-supplying or nitrogen-supplying and reducing ambient so as to passivate the layer. Tsuzumitani does not teach or suggest such a method. According to Tsuzumitani, a capacitor is fabricated by depositing a lower electrode of ruthenium, and annealing the ruthenium electrode in a non-oxidizing ambient such as a mixture of argon and hydrogen gases. Col. 5, lines 11-24 and col. 10. lines 4-10. Tsuzumitani does not teach or suggest providing a layer of ruthenium oxide, or annealing a ruthenium oxide layer in a nitrogen-supplying or nitrogen-supplying and reducing ambient. Therefore, claim 59 and dependent claims 60-63 and 72-73 are properly allowable over Tsuzumitani.

Dependent claims 60-63 are recite additional features that are neither taught or suggested by Tsuzumitani. For example, claim 60 recites a method of forming a passivated layer during fabrication of an electronic device. The method comprises providing a layer of ruthenium oxide, and annealing the layer in a nitrogen-supplying or nitrogen-supplying and reducing ambient so as to passivate the layer. The passivated layer is then annealed in an oxidizing ambient. Tsuzumitani does not teach or suggest such a method. As noted above, Tsuzumitani teaches a ruthenium layer, and annealing the ruthenium layer a non-oxidizing ambient such as a mixture of argon and hydrogen gases. Tsuzumitani does not teach or suggest annealing a ruthenium layer in a nitrogen-supplying or nitrogen-supplying and reducing ambient, and then annealing the layer in an oxidizing ambient. Therefore, claim 60 is properly allowable over Tsuzumitani.

Claims 61 and 62 recite annealing the ruthenium oxide layer in an ammonia ambient or a mixture comprising hydrogen and nitrogen, respectively. Tsuzumitani does not teach or suggest annealing in such ambients, and instead teaches annealing a ruthenium electrode in a non-oxidizing ambient such as a mixture of hydrogen and argon. Therefore, claims 61-62 are properly allowable over Tsuzumitani.

In view of the preceding amendments and remarks, the allowance of claims 59-63 and 72-73 in addition to previously allowed claims 1-42 and 66-70 is requested.

Respectfully submitted,
KLARQUIST SPARKMAN, LLP

By _____
Michael D. Jones
Registration No. 41,879

One World Trade Center, Suite 1600
121 S.W. Salmon Street
Portland, Oregon 97204
Telephone: (503) 226-7391
Facsimile: (503) 228-9446

Marked-up Version of Amended Specification and Claims
Pursuant to 37 C.F.R. §§ 1.121(b)-(c)

Please replace the paragraph beginning on page 6, line 1, with the following paragraph:

--If the layer 12 is formed via CVD, the deposition may be performed, for example, at pressures of 1-20 torr, desirably about 5 torr. The oxygen may be supplied in the form of O_2 or other oxidizing gas, such as N_2O, NO, or ozone (O_3). The oxygenating gas and a ruthenium precursor, and suitable diluent gasses, if desired, may be supplied at suitable flow rates, such as in the range of about 100-2000 sccm. Alternatively, the ruthenium precursor can be **[deliver]** delivered by direct vaporization. Deposition may be performed for a time in the range of about 10 to 500 seconds, desirably for sufficient time and under sufficient conditions to deposit RuO_x or RuO_2 to a thickness in the range of about 100 to 600 Angstroms.--

Please amend the claims as follows:

59. (Amended) A method of forming a passivated layer **[of ruthenium or ruthenium oxide]** during fabrication of an electronic device, the method comprising:

providing a layer of **[ruthenium or]** ruthenium oxide; and

annealing the layer in a nitrogen-supplying or nitrogen-supplying and reducing ambient so as to passivate the layer.

60. (Amended) The method of claim 59 further comprising annealing the passivated layer in an oxidizing ambient.